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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,890	02/09/2004	Eugene A. Fitzgerald	ASC-049C1	8754
51414	7590	10/15/2007		
GOODWIN PROCTER LLP PATENT ADMINISTRATOR EXCHANGE PLACE BOSTON, MA 02109-2881			EXAMINER LE, DUNG ANH	
			ART UNIT 2818	PAPER NUMBER
			MAIL DATE 10/15/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/774,890

Applicant(s)

FITZGERALD, EUGENE A.

Examiner

DUNG A. LE

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment dated 8/15/2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 32-34 and 37-89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 71-76, 80-84, 87 and 88 is/are allowed.
- 6) ☒ Claim(s) 32-34, 37-38, 40-70, 77-78, 85-86 and 89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>8/15/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

This Office Action is in response to Amendment filed on 8/15/2007

Claims 35-36 have been cancelled.

Claims 32, 34, 42, 45, 48, 49, 55-57, 59, 60, 67 and 70-74 have been amended.

Claims 32-34 and 37-89 are pending in the present application at the time of examination

Set of claims 32-34, 37-38, 41, 44-47, 65-66, 77-78 and 85-86

Independent Claim 32 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant introduces the new matter by adding :

“the first strained layer is compressively strained” into claim 32.

The added matter(s) is(are) not supported in the Specification and it (they) (is) are not satisfactory resolved and consequently raise doubt as to possession of the claimed invention at the time of filing.

The remaining claims are dependent from the above rejected claim and therefore also are rejected.

Set of claim 39 and 89

Claims 39-39 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Sugii in view of Mizuno et al. (IEEE ELECTRON DEVICE LETTER Vol. 21. No .5 May 2000/IDS).

Sugii teaches the claimed invention as applied to claims 32 and 38 except for the step of providing an insulator layer over the substrate and wherein the insulator layer comprises SiO₂.

Mizuno discloses "a strained-Si FET structure, MOSFET's on strained-Si/SiGe-on-Insulator (strained-SOI substrates). Mizuno states "[t]he strained-SOI structure consists of the strained-Si channel on a relaxed SiGe-on-buried-oxide-layer, as can be seen in the TEM photograph in Fig. 1" (page 230, 2nd column).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an insulator layer over the substrate and wherein the insulator layer comprises SiO₂ in Sugii 's method in order to improve its superior electronic characteristics.

Regarding claim 89, Mizuno (page 230, 2nd column)discloses the step of providing an insulator layer comprises wafer bonding.

Set of claims 67-69

Claim 67 is rejected under 35 USC 102 (e) as being anticipated by Fitzgerald et al. (6881631 B2).

Fitzgerald teaches a method comprising:

providing a substrate (Si substrate);

providing a first strained layer (Strained-Si channel layer) disposed above the substrate, the first strained layer having an average surface roughness of no more than approximately 2 nm { Fitzgerald discloses a strained-Si channel layer where the measured surface roughness less than 1nm in column 5, line 9).

providing a gate stack (especially see figs. 5A-B and refer to related text))
disposed above the first strained layer; and
providing device isolation regions 516.

Regarding claim 68 and 69, wherein the device isolation regions are STI regions and wherein the device isolation regions are LOCOS regions (especially see figs. 5A-B and refer to related texts).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung A. Le whose telephone number is (571) 272-1784. The examiner can normally be reached on Monday-Tuesday and Thursday 6:00am- 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Loke can be reached on (571) 272-1657. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Dung A. Le/

DUNG A. LE
Primary Examiner
Art Unit 2818